Clozapine blood tests can be reduced after two years, finds analysis

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Credit: Chokniti Khongchum from Pexels

Research from the University of Queensland, supported closely by experts at the University of Adelaide, has shown that people using antipsychotic drug clozapine may not need regular blood monitoring

after two years.

Clozapine is used to treat schizophrenia when other antipsychotic medicines either have not worked or have caused severe side effects, and these findings could improve access to the drug and outcomes for patients.

"Generally prescribed for treatment-resistant schizophrenia, clozapine can interfere with the production of neutrophils, a kind of white blood cell, leaving people dangerously vulnerable to infection in the first month or so after starting the drug," said Dr. Korinne Northwood, from UQ's Faculty of Medicine.

People taking clozapine are currently required to have weekly blood tests for the first 18 weeks, then monthly tests for as long as they are on the medication.

In this study, which analyzed historical data from 26,630 people taking clozapine across Australia and New Zealand, researchers found 313 in the cohort who had to stop taking the antipsychotic because of seriously low neutrophil levels.

The overwhelming majority of those incidences were seen within the first 18 weeks of a patient taking the drug.

"We found that once people had taken clozapine for two years, the rate of someone experiencing seriously low neutrophils was just 0.001 percent per week," Dr. Northwood said.

Professor Dan Siskind, from UQ's Faculty of Medicine, explained that the drug effectively reduced hospitalizations and mortality for a third of people with schizophrenia who are treatment-resistant.

"Clozapine is a necessary, lifesaving medication for many people, but the weekly and then monthly blood testing which is currently mandated presents a burden to consumers," he said.

Professor Siskind says clozapine is under-prescribed globally, possibly due in part to fear among clinicians of the risks and the burden of lifelong monitoring on patients.

"We hope this study will provide the basis for a change in practice, making clozapine more accessible to those who need it and improving the lives of people on the drug," he said.

The University of Adelaide worked closely with UQ and in partnership with pharmaceutical company Viatris to develop the analysis protocol and secure access to large-scale data.

Associate Professor Scott Clark, head of the University of Adelaide's Discipline of Psychiatry, described the study's dataset as internationally unique.

"It represents one of the largest longitudinal analyses of neutropenia in clozapine treatment," he said.

"The analysis plan is novel in that we separated the low- and high-risk cases of neutropenia to identify that high risk was negligible after two years. This is critical for determining safety."

Associate Professor Clark hopes to dig further into the dataset to assess other risks associated with clozapine use.

"We will focus next on the timing and rates of clozapine-associated myocarditis based on three of our own recent papers suggesting risk is elevated in South Australia," he said.

"Due to the sensitivity of current monitoring protocols the rates of serious myocarditis may also be overreported, but recent evidence also suggests personalized titration may reduce risk."

The findings are published in *The Lancet Psychiatry* journal.

More information: Korinne Northwood et al, Evaluating the epidemiology of clozapine-associated neutropenia among people on clozapine across Australia and Aotearoa New Zealand: a retrospective cohort study, *The Lancet Psychiatry* (2023). DOI: 10.1016/S2215-0366(23)00343-7

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